

Case 3658***Calyptorhynchus baudinii* Lear, 1832 (Aves, CACATUIDA): proposed conservation of usage by designation of a neotype**

Ronald E. Johnstone

Department of Terrestrial Zoology, Western Australian Museum, Locked bag 49, Welshpool DC, Western Australia 6986, Australia
(e-mail: Ron.Johnstone@museum.wa.gov.au)

Clemency Fisher

Curator of Vertebrate Zoology, World Museum, National Museums Liverpool, William Brown Street, Liverpool, L3 8EN, U.K.

Denis A. Saunders

CSIRO Land & Water Sciences, GPO Box 1700, Canberra, ACT, 2601, Australia

Abstract. The purpose of this application, under Article 75.6 of the Code, is to conserve prevailing usage of the species names *Calyptorhynchus baudinii* Lear, 1832 and *Calyptorhynchus latirostris* Carnaby, 1948, long established for two endemic cockatoos in southwestern Australia (Lear, 1832). The whereabouts of the holotype of *C. baudinii* Lear, 1832 (Baudin's Cockatoo) was previously unknown and the identity of Lear's (1832) figure was established by Saunders (1974). The holotype has been located at the National Museums Liverpool in December 2010 and found to be conspecific with *C. latirostris* Carnaby, 1948 (Carnaby's Cockatoo). The resulting nomenclatural shift would destabilise the long established usage of these names and confound past and future references to the names in the literature. To conserve the long established use of *baudinii* Lear for the distinct long-billed, Baudin's Cockatoo, and to maintain *latirostris* Carnaby as the valid name for Carnaby's Cockatoo we propose that the type of *baudinii* Lear, be set aside and replaced with a neotype of a specimen of Baudin's Cockatoo.

Keywords. Nomenclature; taxonomy; CACATUIDAE; *Calyptorhynchus baudinii*; Baudin's Cockatoo; *Calyptorhynchus latirostris*; Carnaby's Cockatoo; Australia.

1. Two species of white-tailed black cockatoo – Baudin's Cockatoo (*Calyptorhynchus baudinii* Lear, 1832, unnumbered plate) and Carnaby's Cockatoo (*Calyptorhynchus latirostris* Carnaby, 1948, p. 137) – are endemic to the south-west of Western Australia. The two were only recognised as separate species in 1979 (Saunders, 1979). First discovered by the Baudin Expedition, probably in the vicinity of Cape Naturaliste, Western Australia in 1801 and its consequent supposed illustration and naming by Edward Lear in 1832, Baudin's Cockatoo has been known as *Calyptorhynchus baudinii* Lear, 1832 (e.g. Gould, 1865; Salvadori, 1891 and Mathews, 1913).



Figs. 1a. Lear's plate 1832 showing *Calyptorhynchus baudinii*. **1b.** Specimen D5598s in the Liverpool Museum.

Its affinities with and the taxonomic status of its close relative Carnaby's Cockatoo *Calyptorhynchus latirostris* Carnaby, 1948 has, however, been complicated and confusing. Both species have extremely high profiles in Western Australian ornithology as well as the general community as pest species in agriculture (mainly Baudin's Cockatoo, a long-billed white-tailed black cockatoo), as endangered fauna in both State and federal legislation, and in aviculture. Their respective names are in wide use in Australia and internationally, in handbooks (Serventy & Whittell, 1976; del Hoyo et al., 1997; Johnstone & Storr, 1998; Higgins, 1999), field guides (Storr & Johnstone, 1979, 1985; Pizzey, 1980; Simpson & Day, 1996), checklists (Checklist Committee RAOU, 1926; Peters, 1937; Condon, 1975; Sibley & Monroe, 1990; Johnstone, 2001; Christidis & Boles, 2008), monographs of Psittaciformes (Forshaw, 1978, 1981; Cameron, 2007), regional avifaunas (Storr & Johnstone, 1988; Storr, 1991; Saunders & Ingram, 1995), scientific journals (Saunders 1974, 1979; Chapman, 2007; Johnstone & Kirkby 2008), and action plans for Australian bird conservation (Garnett & Crowley, 2002). This demonstrates that the scientific names have been used for Baudin's Cockatoo in particular for well over a century and in hundreds of references.

2. The type specimen of *Calyptorhynchus baudinii* almost certainly came from the vicinity of Eagle Bay, Western Australia (near Cape Naturaliste) as this is the only area that white-tailed black cockatoos were noted by a small party (under Henri Freycinet) from the Baudin Expedition that took a dinghy ashore there in late May 1801. By March 1804 the collections of the French Baudin expedition were in France

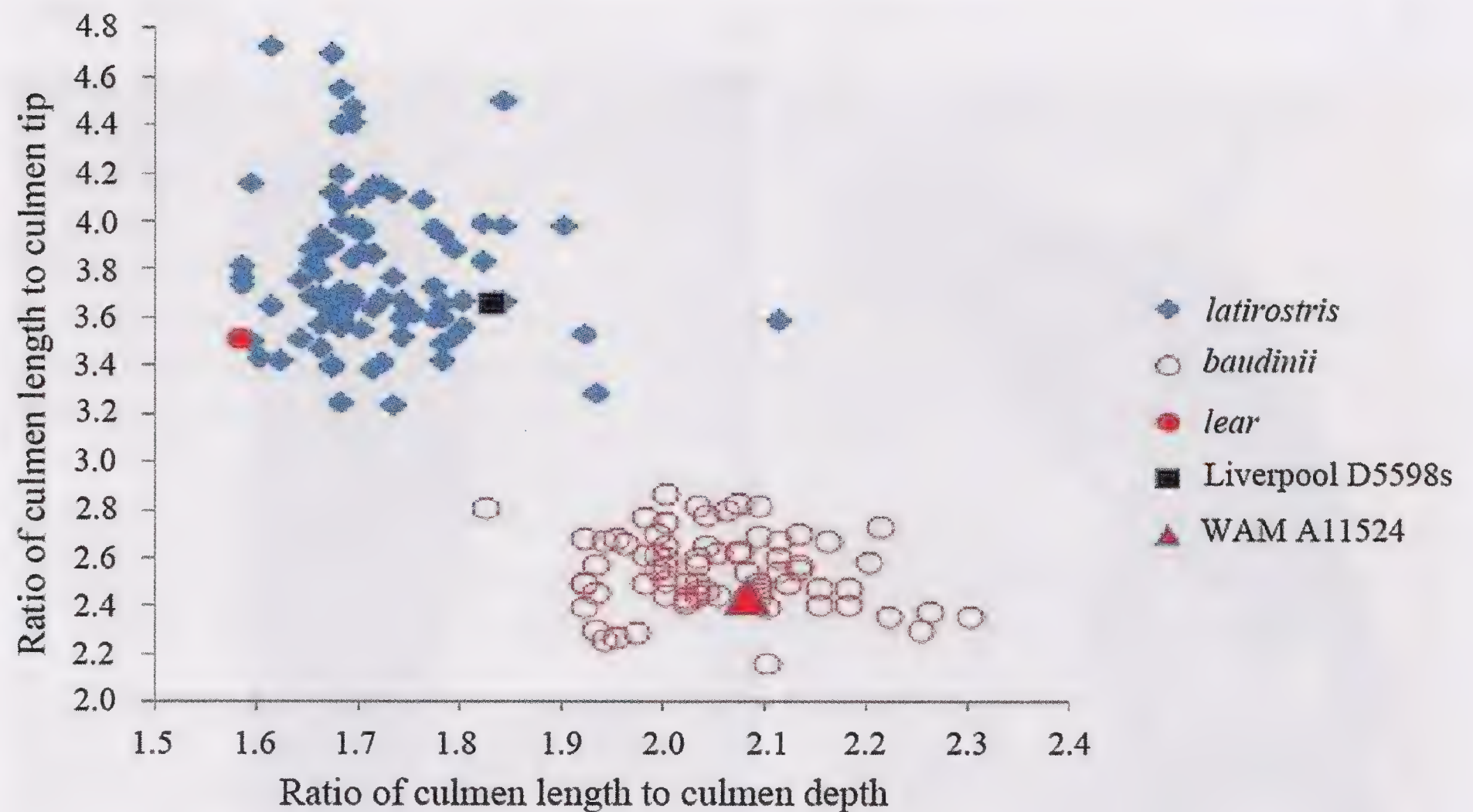


Fig. 2. Ratio of bill measurements of specimens.

and contained at least 80 species of Australian birds, many represented by more than one or two specimens. There are little data as to the present whereabouts of some of their specimens, but the type specimen of the Red-capped Parrot for example is an immature example in the Muséum National d'Histoire Naturelle, Paris (MNHP). Some of the specimens were mounted for the Paris Museum and duplicates were given to M. Becoeur of Paris, a dealer in zoological objects who sold some of them to C.J. Temminck and probably other collectors, in 1806. Specimens that remained in the Paris Museum were studied by Temminck, Vieillot and Levaillant and later by Kuhl (1820) (who for example described the Red-capped Parrot). Some specimens apparently found their way to Leadbeater, including a Western Australian cockatoo, as Lear's plate has a note at the base 'In the possession of Mr Leadbeater'. Leadbeater ran a natural history business in London and with Lear was a member of the Linnean Society. In the 1830s Lear spent much of his time working at Knowsley Hall, near Liverpool, the home of the President of the Linnean Society, Lord Stanley, who became the 13th Earl of Derby in 1834. Lord Derby purchased many specimens from Leadbeater around 1840. In 1851 after his death, the Derby collection was donated to the people of Liverpool, thus founding what is now National Museums Liverpool.

3. Lear's beautiful illustration (Fig. 1a) is labelled at the base as follows:

Calyptorhynchus baudinii

Baudin's Cockatoo

2/3 natural size

In the possession of Mr Leadbeater

On the branch is his signature E. Lear and also in his writing the date 'Decbr 27 1831'.

Lear was obviously aware of the Baudin expedition in 1802–1804, and although this does not prove Leadbeater's specimen had been collected on the expedition, the



Fig. 3. Head of specimen D5598s in the Liverpool Museum (from the Earl of Derby Collection).

fact that he used the patronym *baudinii* as the scientific name to honour him is significant.

The illustration (an unnumbered lithographic plate) is of a female (with pale whitish bill) and certainly depicts a bird with a fairly long upper mandible. Based on the bill ratio incorrectly shown in the plate, the identity of the figure was identified by Saunders (1974) as *Calyptorhynchus baudinii* rather than *C. latirostris* (that has a shorter and broader upper mandible). It is evident, however, that it was Lear's style to greatly overemphasise the length of the upper mandible on virtually all of his paintings (see for example Blue and Yellow Macaw (Fig. 5), Hyacinthine Macaw, Regent Parrot and Red-capped Parrot).

4. The specimen in the Liverpool Museum is from the 13th Earl of Derby Collection D5598s (Fig. 1b), purchased from Leadbeater on 8 February (we think from cross-referencing against other Leadbeater specimens that this may have been 1840). It has a large old parchment label with 'Calyptorhynchus Baudinii (Lear)' in Lear's large black handwriting (Fig. 1b), confirmed by Lear expert Robert McCracken Peck. Peck compared the handwriting on the label with numerous letters written by Lear in the 1830–40s and in his opinion is consistent with Lear's writing (pers. comm. 2014). The Liverpool Museum specimen is a female (based on colour of bill and ear coverts) and based on measurements and photographs it is clearly a Carnaby's Cockatoo (i.e. the short-billed form) (Figs. 2, 3 & 4). We can find no evidence that there were any other specimens of *Calyptorhynchus* in Lord Derby's collection which have a connection to both Lear and Leadbeater and believe that this



Fig. 4. Bill comparison of top, specimen D5598s, and bottom, Lear's plate *Calyptorhynchus baudinii*.

specimen in Liverpool is the re-discovered long-lost holotype. Overall there is a very strong connection between this specimen and Lear and it is apparent that this was the bird used by him for his illustration to honour Nicolas Baudin. In addition, the culmen length and culmen depth ratios were established and plotted against the equivalent ratios from the Liverpool Museum's D5598s, of Lear's plate, 90 C.



Fig. 5. Lear's plate of Blue and Yellow Macaw 1832 showing the exaggerated upper mandible.



Fig. 6. Proposed neotype of Baudin's Cockatoo, specimen A11524 Western Australian Museum.



Fig. 7. Head of proposed neotype of Baudin's Cockatoo, specimen A11524 Western Australian Museum.

latirostris and 73 *C. baudinii* specimens of both sexes. This demonstrates that the types of *C. baudinii* and *C. latirostris* are conspecific (Fig. 7).

5. The consequences of this finding will not only disrupt and destabilise long established nomenclature for these two white-tailed black cockatoos, but create confusion by shifting the name *baudinii* Lear, 1832 from one taxon to another, thereby confounding past and future references to *baudinii* and *latirostris* in the literature. The type of Carnaby's Cockatoo *Calyptorhynchus latirostris* Carnaby, 1948 is a male lodged in the Western Australian Museum specimen A6436. It has been examined by Johnstone and its identification confirmed. In these circumstances,

we believe that the best and simplest solution for maintaining accustomed usage for both Baudin's and Carnaby's cockatoo would be to select a neotype of Baudin's Cockatoo under Article 75.6 of the Code.

6. As an appropriate neotype we propose specimen WAM (Western Australian Museum) A11524, adult female from Grey Stones Plantation, Mundaring Western Australia, collected on 22 June 1971 by D. Saunders and lodged in the Western Australian Museum, Perth, Australia (Figs. 6 & 7). This specimen shows all the characteristics described for the female of this south-western Australian endemic by Johnstone and Storr (1998) and Higgins (1999). This designation conserves prevailing usage, and satisfies collectively all the qualifying conditions of Article 75 of the Code.

7. In support of this action, we propose that the names Baudin's Cockatoo *Calyptorhynchus baudinii* and Carnaby's Cockatoo *Calyptorhynchus latirostris* be placed on the Official List of Specific Names in Zoology, to settle their application.

8. The International Commission on Zoological Nomenclature is accordingly asked:

- (1) to use its plenary power to set aside all previous type fixations for *Calyptorhynchus baudinii* Lear, 1832 and to designate specimen WAM A11524 lodged in the Western Australian Museum, Perth, Western Australia as the neotype;
- (2) to place on the Official List of Specific Names in Zoology the name *baudinii* Lear, 1832, as published in the binomen *Calyptorhynchus baudinii* and as defined by the neotype WAM A11524 designated in (1) above;
- (3) to place on the Official List of Specific Names in Zoology the name *latirostris* Carnaby, 1948, as published in the binomen *Calyptorhynchus latirostris* and as defined by holotype A6436 in the Western Australian Museum.

Acknowledgements

We are grateful to Richard Schodde (*CSIRO Ecosystem Sciences, Canberra*) for advice in the preparation of this case. We also thank Robert McCracken Peck (*Academy of Natural Sciences of Drexel University, Philadelphia, U.S.A.*) for identification and confirmation of Lear's handwriting on the Liverpool Museum specimen and Kim Sarti (*Western Australian Museum, Perth, Australia*) for his assistance.

References

- Cameron, M. 2007. *Cockatoos*. CSIRO Publishing, Collingwood, Victoria, Australia.
- Carnaby, I.C. 1948. Variations in the White-tailed Black Cockatoo. *The Western Australian Naturalist*, **1**: 136–138.
- Chapman, T.F. 2007. An endangered species that is also a pest: a case study of Baudin's Cockatoo *Calyptorhynchus baudinii* and the pome fruit industry in south-west Western Australia. *Journal of the Royal Society of Western Australia*, **90**: 33–40.
- Christidis, L. & Boles, W. 2008. *Systematics and taxonomy of Australian birds*. 277 pp. CSIRO Publishing, Melbourne.
- Condon, H.T. 1975. *Checklist of the birds of Australia, part 1 Non-passerines*. xx, 311 pp. Royal Australasian Ornithologists Union, Melbourne.
- del Hoyo, J., Elliott, A. & Sargatal, J. (Eds.). 1997. *Handbook of the birds of the world*, vol. 4. Sandgrouse to cuckoos. 679 pp. Lynx Edicions, Barcelona.
- Forshaw, J.M. 1978. *Parrots of the world*, Ed. 2. 616 pp., 158 pls. Lansdowne Editions, Melbourne.

- Forshaw, J.M.** 1981. *Parrots of the world*, Ed. 2. 312 pp., 56 pls. Lansdowne Editions, Melbourne.
- Garnett, S.T. & Crowley, G.M.** 2002. *The action plan for Australian birds*, Ed.2. ix, 673 pp. Environment Australia, Canberra.
- Gould, J.** 1865. *Handbook to the birds of Australia*. 2 vols. Gould, London.
- Higgins, P.J.** (Ed.). 1999. *Handbook of Australian, New Zealand and Antarctic birds*, vol.4. Parrots to Dollarbird. 1248 pp. Oxford University Press, Melbourne.
- Johnstone, R.E.** 2001. Checklist of the birds of Western Australia. *Records of the Western Australian Museum, Supplement*, **63**: 75–90.
- Johnstone, R.E. & Kirkby, T.** 2008. Distribution, status, social organisation, movements and conservation of Baudin's Cockatoo (*Calyptorhynchus baudinii*) in South-west Western Australia. *Records of the Western Australian Museum*. **25**: 107–118.
- Johnstone, R.E. & Storr, G.M.** 1998. *Handbook of Western Australian birds*, vol. 1. Non-passerines. ix, 436 pp. Western Australian Museum, Perth.
- Kuhl, H.** 1820. Conspectus Psittacorum. *Nova Acta Physico-Medica Academiae Caesareae Leopoldino-Carolinae Naturae Curiosum*, **10**: 1–104, pls. 1–111.
- Lear, E.** 1832. *Illustrations of the family of the Psittacidae, or parrots*. Pt XII. E. Lear, London.
- Mathews, G.** 1913. Additions and corrections to my reference list. *Austral Avian Record*, **1**: 187–194.
- Peters, J.L.** 1937. *Check-list of birds of the world*, vol.3.xiii, 311 pp. Harvard University Press, Cambridge, Massachusetts.
- Pizzey, G.** 1980. *A field guide to the birds of Australia*. Collins, Sydney.
- R.A.O.U. (Royal Australasian Ornithologists Union) Checklist Committee.** 1926. *Official checklist of the birds of Australia*, Ed. 2. x, 212 pp. Royal Australasian Ornithologists Union, Melbourne.
- Salvadori, T.** 1891. *Catalogue of the birds in the British Museum*. Catalogue of the Psittaci, or Parrots, vol. 20. Xvii, 658 pp., 28 pls. British Museum, London.
- Saunders, D.A.** 1974. Subspeciation in the White-tailed Black Cockatoo, *Calyptorhynchus baudinii* in Western Australia. *Australian Wildlife Research*, **1**: 55–69.
- Saunders, D.A.** 1979. Distribution and taxonomy of the white-tailed and yellow-tailed black cockatoos *Calyptorhynchus* spp. *Emu*, **79**: 215–227.
- Saunders, D.A. & Ingram, J.A.** 1995. *Birds of Southwestern Australia: an atlas of changes in the distribution and abundance of the Wheatbelt avifauna*. Surrey Beatty & Sons, Chipping Norton, New South Wales.
- Serventy, D.L. & Whittell, H.M.** 1976. *Birds of Western Australia*. 5th revised Edition. University of Western Australia Press, Perth.
- Sibley, S.G. & Monroe, B.L., Jr.** 1990. *Distribution and taxonomy of birds of the world*. xxiv, 1111 pp. Yale University Press, New Haven.
- Simpson, K. & Day, N.** 1996. *Field guide to the birds of Australia*. Lloyd O'Neil, Melbourne.
- Storr, G.M. & Johnstone, R.E.** 1979. *A field guide to the birds of Western Australia*. Western Australian Museum, Perth.
- Storr, G.M. & Johnstone, R.E.** 1985. *A field guide to the birds of Western Australia*. 2nd Ed. Western Australian Museum, Perth.
- Storr, G.M. & Johnstone, R.E.** 1988. Birds of the Swan Coastal Plain and adjacent seas and islands. *Records of the Western Australian Museum. Supplement*, **28**: 1–76.
- Storr, G.M.** 1991. Birds of the South-west division of Western Australia. *Records of the Western Australian Museum, Supplement*, **35**: 1–150.

Acknowledgement of receipt of this application was published in BZN 71: 70.

Comments on this case are invited for publication (subject to editing) in the *Bulletin*; they should be sent to the Executive Secretary, I.C.Z.N., c/o Natural History Museum, Cromwell Road, London SW7 5BD, U.K. (e-mail: iczn@nhm.ac.uk).